

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (withdrawn): A section of piping for a concrete pump delivery system which has improved abrasion resistance and which also exhibits ease of cleaning after use, the piping comprising:

a tubular metal body having an exposed exterior surface and an internal surface, the internal surface of the tubular body being plated with a deposit of chromium to give the section of piping a hard chromium case which resists abrasion.

Claim 2 (withdrawn): The section of piping of claim 1, wherein the chromium case has a thickness in the range from about 0.001 to 0.035 inches.

Claim 3 (withdrawn): The section of piping of claim 2, wherein the chromium case has a thickness of approximately 0.010 inches.

Claim 4 (withdrawn): The section of piping of claim 3, wherein the internal surface of the tubular metal body is mechanically smoothed prior to applying the deposit of chromium.

Claim 5 (withdrawn): The section of piping of claim 4, wherein the internal surface of the tubular metal body is honed prior to applying the deposit of chromium.

Claim 6 (withdrawn): A section of piping for a concrete pump delivery system having improved abrasion resistance which also exhibits ease of cleaning after use, the piping comprising:

a tubular metal body having an exposed exterior surface and a generally cylindrical internal surface, the internal surface of the tubular metal body being uniformly plated with a deposit of chromium to give the section of piping a hard chromium case which resists abrasion, the deposit of chromium being applied by exposing the internal surface of the tubular metal body to an aqueous electrolyte solution at a current density and at a plating temperature sufficient to form a chromium deposit of desired thickness on the internal surface, the electrolyte solution containing at least water, chromic acid and a sulfate component.

Claim 7 (withdrawn): The piping of claim 6, wherein the electrolyte solution also contains an alkyl sulphonic acid and an anion of molybdenum.

Claim 8 (currently amended): A method of improving the abrasion resistance of a section of piping for a concrete pump delivery system where the delivery system includes a mobile delivery system with an adjustable boom structure, the method comprising the steps of:

providing a tubular metal body of a selected length on the order of 10 feet, the tubular metal body having an exposed exterior surface and a generally cylindrical internal surface which defines an internal diameter, the internal diameter being on the order of 5 to 6 inches;

exposing the internal surface of the tubular metal body to an aqueous electrolyte solution containing at least water, chromic acid and a catalyst to provide an increased plating rate, the internal surface being exposed to the electrolyte solution at a current density and at a plating temperature sufficient to form a chromium deposit of desired thickness on the internal surface, whereby the internal surface of the tubular metal body is plated with a deposit of chromium to give the section of piping a hard chromium case which resists abrasion, thereby providing a tubular metal body of reduced wall thickness and therefore lighter weight which has abrasion resistance at least equal to industry standard piping for concrete pump delivery systems.

Claim 9 (previously presented): The method of claim 8, wherein the chromium case which is deposited has a thickness in the range from about 0.001 to 0.035 inches.

Claim 10 (previously presented): The method of claim 9, wherein the chromium case has a thickness of approximately 0.010 inches.

Claim 11 (previously presented): The method of claim 8, wherein the internal surface of the tubular metal body is mechanically smoothed prior to applying the deposit of chromium.

Claim 12 (previously presented): The method of claim 11, wherein the internal surface of the tubular metal body is honed prior to applying the deposit of chromium.

Claim 13 (previously presented): The method of claim 8, wherein the electrolyte solution also contains an alkyl sulphonic acid and an anion of molybdenum.

Claim 14 (currently amended): A method of improving the abrasion resistance of a section of piping for a concrete pump delivery system, the method comprising the steps of:

providing a tubular metal body of a selected length having an exposed exterior surface and a generally cylindrical internal surface;

exposing the internal surface of the tubular metal body to an aqueous electrolyte solution, the aqueous electrolyte solution being formed by combining water, from about 250 to 300 grams per liter chromic acid, from about 2 to 4 grams per liter of a sulfate component and about 2 to 4 grams per liter of an alkyl sulphonic acid;

adding from about 25 to 50 grams per liter of a source of molybdenum anions to the base electrolyte bath;

exposing the workpiece to the aqueous electrolyte bath at a current density and at a plating temperature sufficient to form an alloy chromium deposit of desired thickness on the workpiece, thereby providing a tubular metal body of reduced wall thickness and therefore lighter weight which has abrasion resistance at least equal to industry standard piping for concrete pump delivery systems.

Claim 15 (previously presented): The method of claim 14, wherein the internal surface of the tubular metal body is exposed to the aqueous electrolyte bath at a current density in the range from about 15 to 100 A/dm² and at a plating temperature in the range from about 20 to 70 °C to form an alloy chromium deposit having at least about 0.5% molybdenum deposited.

Claim 16 (previously presented): The method of claim 15, wherein the alkyl sulphonic acid is a saturated aliphatic sulphonic acid having a maximum of two carbon atoms and a maximum of six sulphonic acid groups or their salts or halogen derivatives thereon.

Claim 17 (previously presented): The method of claim 16, further characterized in that the cathode efficiency of the process is greater than about 18%.

Claim 18 (previously presented): The method of claim 17, wherein the current applied to the aqueous electrolyte bath is applied as pulsed direct current to provide an alloy chromium deposit having at least about 1.5% molybdenum deposited.